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(71) Applicant (for all designated States except JP, US):
SAUDI BASIC INDUSTRIES CORPORATION
[SA/SA]; P.O. Box 5101, Riyadh 11422 (SA).

(71) Applicant and

(72) Inventor (for all designated States except JP, US): **LE, Vinh, N.** [CA/SA]; P.O. Box 5101, Riyadh 11422 (SA).

(74) Agents: **FRITZ, Joachim, T.** et al.; Borden Ladner Gervais LLP, 100 Queen Street, Suite 1100, Ottawa, Ontario K1P 1J9 (CA).

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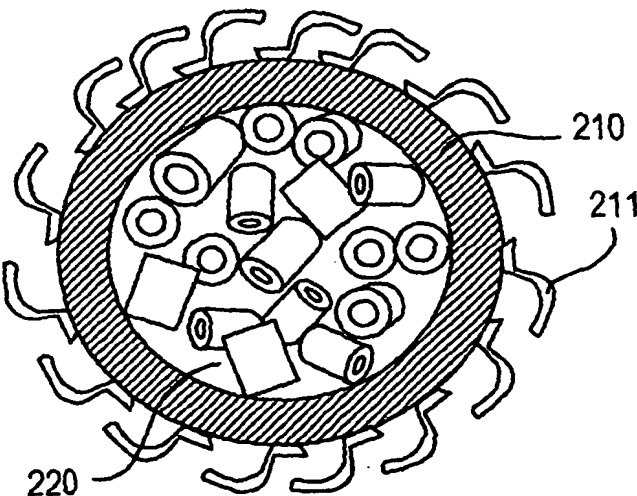
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(54) Title: HEAT EXCHANGE TUBULAR REACTOR WITH A HEAT PIPE



(57) Abstract: A vapor-phase tubular reactor in a shell heat exchanger for removal of the heat of reaction at essentially isothermal conditions has porous wicking surface (211) applied to the external surface of reactor tubes (210). The porous wicking surface on the reactor tubes draws liquid heat transfer fluid from a reservoir at the bottom of the wicked tube section and provides enhanced evaporative cooling. The invention is particularly useful for highly exothermic reactions or when reaction selectivity is negatively affected by high temperature excursions.

WO 03/057358 A1